

What Is Claimed:

1 1. A method of preventing interference in a communication
2 system comprising the steps of:
3 generating a fixed reuse pattern in a service area from a high altitude
4 communications device, said pattern having at least a first resource cell and a
5 second resource cell;
6 selectively suppressing a side lobe of a beam having a first resource
7 so a non-side lobe suppressed portion aligns with a cell having said second
8 resource.

1 2. A method as recited in claim 1 wherein the step of
2 selectively suppressing comprises the step of reshaping the antenna to suppress side
3 lobe interference at the interference locations.

1 3. A method as recited in claim 2 further comprising the step of
2 maintaining the shape of the antenna in non-interference locations.

1 4. A method as recited in claim 1 wherein said first resource
2 and said second resource comprise a frequency.

1 5. A method as recited in claim 1 wherein said first resource
2 and said second resource comprise polarization.

1 6. A method as recited in claim 1 wherein said first resource
2 and said second resource comprise an orthogonal code.

1 7. A method as recited in claim 1 wherein said high altitude
2 communication device comprises a satellite.

7 said antenna formed so that said side lobes of said first plurality
8 beams are selectively suppressed in said first plurality of cells having said first
9 resource.

1 11. A communication system as recited in claim 9 wherein said
2 high altitude communication device comprises a stratospheric platform.

1 15. A method of forming a communication system comprising
2 the steps of:
3 generating a fixed reuse pattern having a maximum capacity having
4 a first beam and a plurality of second beams;
5 identifying interference locations of said first beam relative to said
6 second plurality of beams; and,
7 reshaping the antenna to suppress interference at the interference
8 locations.

1 16. A method as recited in claim 15 further comprising the step
2 of maintaining the shape of the antenna in non-interference locations.

1 17. A method as recited in claim 15 wherein said first beam has
2 a first resource and said second beam has said first resource, wherein said
3 interference locations correspond to a side lobe of said first beam corresponding to
4 said second beam.

1 18. A method as recited in claim 17 wherein said first resource
2 and said second resource comprise a frequency.

1 19. A method as recited in claim 17 wherein said first resource
2 and said second resource comprise polarization.

1 20. A method as recited in claim 17 wherein said first resource
2 and said second resource comprise an orthogonal code.

SCB
A2

ADD
A2